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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/839,594

04/23/2001

Chan Eon Park

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10/24/2002

LEYDIG VOIT & MAYER, LTD
700 THIRTEENTH ST. NW
SUITE 300
WASHINGTON, DC 20005-3960

EXAMINER

NGUYEN, KHIEM D

ART UNIT

PAPER NUMBER

2823

DATE MAILED: 10/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/839,594

Applicant(s)

PARK ET AL.

Examiner

Khiem D Nguyen

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-16 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 8, 9 and 17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-20 in Paper No. 8 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-5, 7, 13, 15-16, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al. (U.S. Patent 6,232,777).

Sato teaches a composite comprising (See col. 8, lines 7-49 and FIG. 10B):

a semiconductor substrate 11; and,

an insulator made of a composite having a dielectric matrix 125 selected from the group consisting of alumina (aluminum oxide Al_2O_3) containing the spherical nano magnetics particles 120 therein and wherein the nano magnetic particles are superparamagnetic comprising cobalt (Co);

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2823

2. Claims 2-3, 6, 10-12 and 14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (U.S. Patent 6,232,777) as applied to claims 1, 4-5, 7, 13, 15-16, 18 and 20 above, and further in view of Ohtaki (U.S. Patent 6,063,303).

Sato fails to teach that the nano magnetic particles are non-spherical and including spherical nano magnetic particles in addition to the non-spherical nano magnetic particles as cited in present claims 2-3, 14 and 19.

Ohtaki teaches including spherical nano magnetic particles in addition to the non-spherical nano magnetic particles (See col. 2, line 66 to col. 3, line 6). *It would have been obvious to one of ordinary skill in the art of making semiconductor devices* to incorporate Ohtaki's teaching into Sato's method because doing so can improve the electromagnetic characteristics (See col. 3, lines 3-6).

Sato fails to teach that the matrix is selected from the group consisting of polyimide, PMMA or methyl silsesquioxane as recited in present claim 6.

However, the use of polyimide, PMMA, or methyl silsesquioxane as the matrix is well-known to *one of ordinary skill in the art of making semiconductor devices*.

Sato teaches that the nano magnetic particles can be form by iron or other alloys but fails to explicitly teach wherein the nano magnetic particles are selected from the group consisting of (γ -Fe₂O₃), chromium oxide (CrO₂), europium oxide (EuO), NiZn-ferrite, MnZn-ferrite, indium (diamagnetic), or yttrium-iron garnet as recited in present claims 10-12.

Art Unit: 2823

However, the use of (y-Fe₂O₃), chromium oxide (CrO₂), europium oxide (EuO), NiZn-ferrite, MnZn-ferrite, indium, or yttrium-iron garnet as the nano magnetic particles is well-known to one of ordinary skill in the art of making semiconductor devices.

Allowable Subject Matter

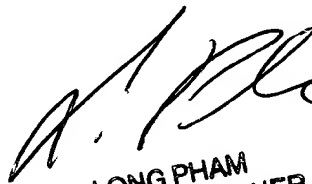
Claims 8-9 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D Nguyen whose telephone number is (703) 306-0210. The examiner can normally be reached on Monday-Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703) 308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-9179 for regular communications and (703) 746-9179 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


LONG PHAM
PRIMARY EXAMINER

K.N.
October 18, 2002